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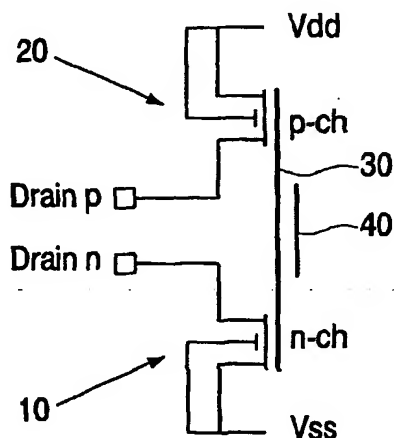
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- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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18 March 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ERASABLE AND PROGRAMMABLE NON-VOLATILE CELL



(57) Abstract: An Erasable and programmable non-volatile cell, comprising - a first transistor having a source, a drain and a gate; - a floating capacitor having a floating gate and a control gate, said floating gate being connected to said gate of said first transistor; and - means to detect the state, whether erased or programmed, of the cell; is characterized in that said means to detect the state of the cell comprises a second transistor having a source, a drain and a gate, said second transistor being complementary to said first transistor and said gate of said second transistor being connected to said floating gate.

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INTERNATIONAL SEARCH REPORT

National Application No

IB 03/02807

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G11C16/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G11C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 646 901 A (BARSAN RADU ET AL) 8 July 1997 (1997-07-08) figure 9 column 7, line 40 - line 65 ---	1
P,X	EP 1 306 854 A (DIALOG SEMICONDUCTOR GMBH) 2 May 2003 (2003-05-02) figure 3 paragraph [0009] - paragraph [0010] paragraph [0019] - paragraph [0020] ---	1-3
A	US 5 247 478 A (CLIFF RICHARD G ET AL) 21 September 1993 (1993-09-21) abstract ---	1
A	US 5 838 040 A (PENG JACK ZEZHONG ET AL) 17 November 1998 (1998-11-17) abstract --- -/--	1

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

13 October 2003

Date of mailing of the international search report

26. 01. 04

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 03/02807

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 933 732 A (LIN YAI-FEN ET AL) 3 August 1999 (1999-08-03) figure 7</p> <p>-----</p>	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 03/02807

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1,2-3

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1,2-3

Floating gate programmable cell for complementary metal oxide semiconductor device with the read transistor being a p-channel transistor

2. Claims: 1,4

N-well control gate of a floating gate programmable cell for complementary metal oxide semiconductor device

3. Claims: 1,5

Polymer floating gate programmable cell for complementary metal oxide semiconductor device

4. Claims: 1,6-8

Applications of a floating gate programmable cell for complementary metal oxide semiconductor device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 03/02807

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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EP 1306854	A	02-05-2003	EP 1306854 A1	02-05-2003
			US 2003081455 A1	01-05-2003
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